

WHAT IS CLAIMED IS:

1. An engine generator comprising a generator connected to an engine, a rectifier circuit which rectifies the output of the generator, and an inverter in which the output of the rectifier circuit is converted into AC power of a predetermined frequency for output, wherein

the generator is a dual-purpose generator both for a generator function and for an electric motor function,

10 a drive inverter circuit which drives the dual-purpose generator as an engine starting electric motor is provided,

the rectifier circuit comprises rectifying elements which are provided in parallel with each switching element of the drive inverter circuit,

15 a DC-DC converter, in which a low DC voltage on a primary side and a high DC voltage on a secondary side are set for the output-terminal side of a battery and the output side of the rectifier circuit, respectively, is provided between the output side of the rectifier circuit and the output terminal of the battery, and

20 the dual-purpose generator is driven as an engine starting electric motor, using the battery as a power supply, when the engine is started.

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2. The engine generator according to claim 1, wherein

a regulator which controls an input voltage to the inverter is provided on the output side of the rectifier circuit, and the secondary side of the DC-DC converter is connected between the rectifier circuit and the regulator.

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3. The engine generator according to claim 1, wherein the DC-DC converter is a two-way DC-DC converter.

10 4. The engine generator according to claim 3, wherein the two-way DC-DC converter comprises: a terminal for a low-voltage side; a terminal for a high-voltage side; a transformer including a winding wire for the low-voltage side and a winding wire for the high-voltage side; a switching element for the
15 low-voltage side inserted between the terminal for the low-voltage side and the winding wire for the low-voltage side; a switching element for the high-voltage side inserted between the terminal for the high-voltage side and the winding wire for the high-voltage side; a rectifying element for the low-voltage side connected in
20 parallel with the switching element for the low-voltage side; a rectifying element for the high-voltage side connected in parallel with the switching element for the high-voltage side, and a control circuit which controls the switching element for the low-voltage side and the switching element for the high-voltage side.

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